

STATEMENT OF WORK
CENTRAL PLANT POWER AND CONTROL SYSTEMS
MAINTENANCE, REPAIR AND PMI
(as of November 18, 2014)

1. **SCOPE.** This requirement is for an Indefinite-Delivery Indefinite-Quantity (IDIQ) contract for repair services for various Central Plant Power and Control Systems for the VA San Diego Healthcare System (VASDHS), located at: 3350 La Jolla Village Drive, San Diego, CA 92161. The Contractor shall furnish all necessary labor, engineering skills, supervision, materials, supplies, personal protective equipment (PPE), training, certificates, tools, equipment and transportation to perform repair services in accordance with the specifications outlined in this Statement of Work. The Contractor shall perform on-site maintenance, repair, calibration, provide incidental parts, performance verification, and quality assurance to keep the equipment covered by this contract in optimum operating condition.

The work performed will consist mainly of equipment repair or Preventative Maintenance Inspection (PMI) requirements in the Central Plant (Building 2) but could extend into the Spinal Cord Injury Building (building 11), the main Medical Center (Building 1) and other outlying buildings as required. The Central Plant Equipment consists of one (1) 4600 Kilowatt Cogeneration Plant and high voltage switchgear which generates and distributes 12,000 volt normal power throughout the Medical Center, 480 volt emergency generator plant, 4,100 tons of refrigeration/chilled water, 65,000 pounds per hour of steam from high pressure boilers, high and low pressure natural gas distribution, and pumping and distribution of domestic and deionized water. Other systems included are reverse osmosis systems, Medical Air and bulk oxygen for direct Patient care, Utility air, cogeneration plant, Emergency generators, medical Vacuum pumps, cooling towers and computerized fire alarm and Building Automated systems to monitor and control Central Plant equipment such as heating, ventilating and air conditioning and life safety protection and alarm systems.

The controls and control systems are located throughout the Medical Center Campus, in interstitial areas of the main building, in control rooms and mechanical closet spaces, and open mechanical areas of the Main Building, Building 11, Building 2, and outlying areas. This includes interior and exterior lighting and lighting controls, all conduit and wiring.

2. **SPECIFIC TASKS.**

- a. The Contractor shall provide all labor, supervision, materials, supplies, tools and equipment (including incidental parts) to perform Power and Controls systems repairs on the equipment listed in **Exhibit A** to this Statement of Work, and titled, “**Partial Central Plant Equipment Listing.**” All central plant equipment and systems are included, i.e. Boilers, Chillers, Medical Gas systems, Domestic and treated water systems, electrical generation, synchronization and protective relays, and vacuum pumps. All wiring, devices, equipment, tools, test equipment, control circuits, etc, are within the scope of this contract. Please note, this listing is not all-inclusive, and other equipment may fall under the scope of this contract that is not identified herein.

- b. Occasional testing and PMI shall be performed upon request by the Contracting Officer's Representative (COR) on an as needed basis. The equipment that will require PMI is listed in **Exhibit B** to this Statement of Work, and is titled, “**Partial Central Plant PMI Equipment Listing**.” Please note, this listing is not all-inclusive, and other equipment may fall under the scope of this contract that is not identified herein.
- c. Install and/or replace existing failed components and systems. Replace, repair, alter and align items found deficient as a result of Inspections and Preventive Maintenance or by the observation or request of the COR.
- d. Repairs to the power systems will include repairs of the wiring and wiring systems to the pumps, motors and motor controls, wiring, generators, distribution panels, transfer switches, starters, breakers, transformers and disconnects. These wiring systems are located in the main building in mechanical spaces and interstitial areas within Building 11, Building 2, and various outlying areas. This includes interior and exterior lighting and lighting controls, all conduit and wiring.
- e. Motor and system controls: Install, troubleshoot and repair magnetic starters, motors and motor control panels, variable frequency drives, and soft starts, door controls, reverse osmosis units and controls, softener controls, fuel pumps and controls, generator controls, emergency diesel start and day tank controls, cooling tower pumps, and wiring monitors and controls. Starters, motor control panels and control panels are located in the main hospital, Building 2, the Spinal Cord Injury and outlying buildings. Evaluate, test and provide recommendations on loading and proper distribution of power for panels, fuses and breakers, wiring and transformers. Maintenance and repair of transfer switches 1 -14, manual transfer switches and generator controls and breakers.
- f. Uninterruptible Power Supply (UPS) systems: Repair UPS systems for computer rooms, hospital operating rooms and plant and other electronic equipment. Systems range in size from desktop up to 50 Kilo Volt-Ampere (KVA). Intercom Systems up to 224 point Private Branch Exchange (PBX) based systems. Repair and troubleshooting of several types of intercoms, house radio and public address systems within the central plant.
- g. The Contractor shall be notified by VA San Diego personnel on an as needed basis that services are required, respond to the notification and be on- site to repair the systems covered under the contract. All completed work shall match existing aesthetics and function.
- h. Parts may be needed as a result of troubleshooting or PMI activities. Incidental parts shall be included as part of this contract at no additional cost to the Government. Incidental parts are considered to be parts that do not exceed a value of \$50.00 (total) per service call. Before replacing any parts that exceed this amount for a service call, the Contractor must notify the COR of the items to be replaced, along with the value of the item. The COR will purchase the

items utilizing their Government Purchase Card or a separate purchase order (the items may be purchased from a different Vendor).

3. SERVICE MANUALS.

VASDHS shall not provide service manuals or service diagnostic software to the Contractor. The Contractor shall obtain, have on file, and make available to its Field Service Engineers all operational and technical documentation (such as: operational and service manuals, schematics, blueprints, and parts lists), necessary to meet the requirements of this contract. The location and listing of the service data manuals, by name, and/or the manuals, themselves shall be provided to the Contracting Officer upon request. VASDHS shall provide architectural drawings of the facility as needed to the Contractor to help locate the equipment by room number; however locating the specific equipment, wire runs, and all associated troubleshooting required to complete a repair or installation shall be the responsibility of the Contractor.

4. REPORTING/SERVICE CALLS.

- a. Repair service shall be provided in response to a request by telephone or otherwise from (1) the Contracting Officer, (2) Director Engineering Service, and/or (3) the COR.
- b. The Contractor shall be told the building number, a brief description of the problem, and the type of equipment that requires and/or needs to be repaired. The Contractor shall dispatch a qualified Field Service Engineer and service truck, equipped with the essential tools and materials for that particular job.
- c. The Contractor shall respond by telephone to the initial request for services from VASDHS within 30 minutes. The Contractor shall be on site within 1 hour of the initial notification in order to repair the system. This requirement shall be interpreted to mean that after the Contractor is notified, they shall be on site within the specified timeframe, with the proper tools and equipment as appropriate for the problem as described, unless the VA agrees to another timeframe prior to the time when the Contractor is due.
- d. The Contractor shall be required to report to Engineering to log in prior to servicing the equipment. This check-in is mandatory. A logbook for this purpose is provided in Building 2, Room 103-2 for this purpose. When the service is completed, the Field Service Engineer must document services rendered on a legible engineering service report and log out with the Engineering Department by submitting the engineering services rendered report. Email notification and reporting system is an acceptable substitute for a handwritten logbook, but the Building 2 check in prior to and check out upon completion of work, including equipment status reporting is mandatory. At a minimum, the Services Rendered report must include a detailed description of the services performed, including replaced parts required to repair the equipment in accordance with performance requirements.
- e. The COR shall review the work and provide an "authorization signature" for the services rendered per the engineering service report. If the COR is unavailable, a signed, authorized

copy of the engineering service report shall be sent to the Contractor after the work can be reviewed (if requested and/or noted on the service report). Both the check-in and check-out procedures defined above are mandatory and shall be strictly enforced.

- f. NOTE: PAYMENT OF INVOICES MAY BE DELAYED IF THE APPROPRIATE REPORTS ARE NOT COMPLETED PROPERLY AND ARE NOT SUBMITTED TO THE COR OR THEIR DESIGNEE AS REQUIRED ABOVE.

5. CONTRACTOR CONTACT INFORMATION.

The Contractor shall provide in the space below the name, address, and telephone number of the office where service calls are to be placed (available 24 hours a day, 7 days a week):

Name: _____

Address: _____

Telephone: _____

The Contractor shall respond by telephone within 30 minutes after initial service request and shall respond on site within 1 hour to make repairs/perform services.

6. **HOURS OF SERVICE.** The Contractor shall perform the services as specified herein Monday through Friday, with the exception of National Holidays (see below) between the hours of 8:00am and 4:30pm. Services and repairs shall be performed during normal working hours, unless requested by the COR and/or approved by the Contracting Officer.

Authorization shall be obtained from the Contracting Officer or the COR in advance for any work to be performed outside of normal working hours. When this authorization is given for the convenience of the Contractor, there shall not be any additional charges to the Government.

7. **NATIONAL HOLIDAYS.** The Contractor is not required to provide service on the following national holidays, nor will the Contractor be paid for these holidays.

The following national holidays are observed by the Federal Government:

New Year's Day	January 1st
Martin Luther King's Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans Day	November 11th

Thanksgiving Day	Fourth Thursday in November
Christmas Day	December 25th

8. **GOVERNMENT FACILITIES.**

- a. VASDHS has fireproofing containing asbestos within the interstitial spaces, mechanical rooms and electrical vaults. All contract personnel are required to wear respirators that are certified by the National Institute for Occupational Safety and Health (NIOSH) and Mine Safety and Health Administration (MSHA) for asbestos and disposable protective coveralls any time they are in the interstitial space. Care shall be taken to prevent the spread of asbestos dust outside of the interstitial limits. Fireproofing material on the protective clothing shall be High Efficiency Particulate Air (HEPA) vacuumed. The HEPA vacuums are located at the interstitial exits. Protective clothing shall be bagged in 6-millimeter polyethylene bags and disposed of as asbestos waste.
- b. Prior to removing any ceiling tiles, which act as a barrier between the interstitial and other areas of the Medical Center, the areas shall be vacated. A "Danger Asbestos" sign shall be provided by the Contractor and posted on the door of the room or containment area. Impermeable drop cloths shall be placed on surface and objects beneath and shall be secured with tape or equivalent. The Contractor shall request the COR to inspect the setup prior to starting the work. Wearing the necessary personal protective equipment, the Contractor shall carefully lift and slide the ceiling tile to prevent generation of dust. The interstitial side of the ceiling tile shall be vacuumed with a Contractor supplied HEPA vacuum cleaner. The ceiling tile shall then be removed. If other tiles are to be removed, their tops shall be vacuumed through the first opening. Upon completion of the job, any debris shall be wet wiped and HEPA vacuumed. No dry sweeping shall be allowed. Contractor shall be required to provide all personal protective equipment and dispose of spent coveralls and plastic in accordance with all local, state, and federal laws and regulations. All waste shall be placed in an asbestos waste bag and double bagged. All bags shall be labeled with the Contractor's name, the contract number, and the date of waste generation.
- c. If the ceiling is to remain open after housekeeping, the Contractor shall construct a sealed plastic wall from the floor to ceiling, securely taped in place. This critical barrier shall be installed prior to housekeeping and shall be inspected by the COR. Opening in barrier shall be made via overlapping flaps of plastic of at least 3 feet, sufficient enough to prevent airborne asbestos to migrate into the adjacent areas. After housekeeping has been performed the "Danger Asbestos" sign shall be replaced by the Contractor with "Caution Asbestos" sign as deemed acceptable by the COR. Alternative work practices and controls are acceptable; however, the VA Safety Engineer must approve them.
- d. Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference), as if copied directly into the contract documents, or as if published copies are bound herewith.

- e. The VA San Diego requires protective clothing and respiratory protection while working in the interstitial areas. This project requires that the Contractor follow all requirements of the Occupational Safety and Health Administration (OSHA) CFR 29 Part 1910.1001 and 1926.1101 with regards to training, medical examination; fit testing, and certification that the Contractor's employees are cleared to wear the required protective equipment. **Copies of these certifications shall be given to the Contracting Officer prior to the Contractor starting any interstitial work.**
 - f. The Government shall provide access to the facility for the Contractor to complete the services required. Office space shall not be provided. The Contractor shall be able to use Government furnished utilities, dumpsters, and rest room facilities.
9. **AUTHORIZED SERVICE.** Only those services specified within are authorized under this contract. Before permitting any service or repairs of a non-contract nature, the Contracting Officer must be advised of the reasons for this additional work. The Contractor is cautioned that only the Contracting Officer or his/her designee may authorize additional service or repairs that are outside of the scope of this contract and that reimbursement shall not be made unless prior authorization is obtained.
10. **TEST EQUIPMENT.** The VA shall not furnish parts and/or test equipment for the performance of this contract. It is the responsibility of the contractor to have/bring the appropriate equipment and/or supplies necessary to complete the work.
11. **REMOVAL OF EQUIPMENT.** Government property shall not be removed from the station without a signed Property Pass. This property pass may be obtained, after removal is authorized by the Contracting Officer or COR. Equipment shall not be removed by the contractor from the Government site for minor repairs. The contractor assumes full responsibility for the equipment while it is off-site, including not only the repair of the equipment, but also any loss or damage to the equipment while off-site or in transit.
12. **CONTRACTING OFFICER REPRESENTATIVE (COR).** Delegation of Authority letters shall be forwarded to the using service and the Contractor after agreement has been signed, identifying the individual(s) as the COR(s). No service shall be provided without the approval of the COR or his/her designee of this contract. The Contractor shall not accept any instructions issued by any other person(s) other than the Contracting Officer or his/her delegated representative acting within the limits of his/her authority.
13. **CHANGES.** The Contractor is advised that only the Contracting Officer, acting within the scope of the contract has the authority to make changes which affect the contract in terms of quality, quantity, price or delivery.

In the event the Contractor effects any such change at the direction of any person other than the Contracting Officer, the change shall be considered to have been made without authority and no

adjustment shall be made in the contract price to cover any increase in costs incurred as a result thereof.

14. **RECONDITIONING.** Reconditioning and/or extensive repair work determined by the Contracting Officer not to be economically feasible is not included in this contract and the Government reserves the right to obtain such service from other than the listed Contractor.
15. **MONITORING AND QUALITY ASSURANCE.** The COR shall be responsible for monitoring the Contractor's performance, by feedback from customers, review of services rendered reports, random inspections and monitoring acceptable performance levels in accordance with the Quality Assurance Surveillance Plan (QASP). The COR shall also be responsible for certifying all invoices.
16. **SAFETY AND FIRE PREVENTION.** In the performance of this contract, the Contractor shall take such safety precautions as necessary to protect the lives and health of the occupants of the building. Fire and safety deficiencies, which exist and are part of the responsibility of the Contractor, shall be immediately corrected. If the Contractor fails or refuses to correct deficiencies promptly, the COR may issue an order stopping all, or any part, of the work. The Contractor shall comply with applicable Federal, State, and local safety and fire regulations and codes, which are in effect during the performance period of the contract. The Contractor personnel shall follow applicable facility policies concerning fire/disaster programs.
17. **VA POLICY.** Possession of weapons is prohibited. Enclosed containers, including tool kits, are subject to search. Violations of VA regulations may result in citations answerable in the United States (Federal) District Court.
18. **CONTRACTOR'S RESPONSIBILITIES.**
 - a. The Contractor shall maintain personal liability and property damage insurance prescribed by the laws of the Federal Government. He/she shall take all precautions necessary to protect persons and property from injury or damage during the performance of this contract. He/she shall be responsible for any injury to himself/herself, his/her employees, or others, as well as for any damage to personal or public property that occurs during the performance of this contract that is caused by him/her or his/her employees fault or negligence.
 - b. Contractor shall comply with all VA safety standards, manufacturers/industry standards, FDA, OSHA, TJC and the latest edition of NFPA-99.
19. **CONTRACTOR SUBMITTALS/INSURANCE REQUIREMENTS.** The Contractor shall be required to provide copies of the following:
 - a. The Contractor is required to provide copies of proof of Worker's Compensation that complies with Federal and State Worker's Compensation and Occupational disease statutes, and provide proof of General Liability Insurance, within 15 days of contract award the

Contractor shall furnish to the Contracting Officer certification from his insurance company indicating that the coverage has been obtained and that it may not be changed or cancelled without guaranteed thirty (30) day notice to the Contracting Officer. New certifications shall be furnished prior to the expiration date.

- b. The Contractor is also required to comply with federal and state Workers Compensation and liability insurance. Reference FAR clause 52.228-5-Insurance and Subpart 28.307-2-Liability.
- c. Workers' compensation and employer's liability. Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with a contractor's commercial operations that it would not be practical to require this coverage. Employer's liability coverage of at least \$100,000 shall be required, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.
- d. General liability. (1) The contracting officer shall require bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence. (2) Property damage liability insurance shall be required only in special circumstances as determined by the agency.

20. CONTRACTOR PERSONNEL.

- a. The Contractor shall assign a Point of Contact (POC) for the purpose of ensuring compliance with all provisions of this contract. The parties agree that the Contractor personnel working under this contract shall not be considered VA employees for any purpose and shall be considered employees of the Contractor. All Contractor personnel assigned to the performance of this contract shall wear a Contractor provided uniform that clearly identifies the individual as a Contractor.
- b. The Contractor shall ensure that the staff assigned shall be cognizant of sexual harassment, drug-free workplace. The Contractor may obtain a copy of this information from the COTR.
- c. The Contractor shall be responsible for repair or replacement of Government-owned items or facilities to previous condition, if determined to be at fault by the COR. The Contractor shall report any damage observed or caused by the Contractor personnel to the COR.
- d. The Contractor shall be responsible for providing fully knowledgeable, trained staff that are competent to meet the requirements of this contract and fulfill all obligations to the satisfaction of the COR. At least one (1) fluent English speaking Contractor representative shall be on site during scheduled hours of work.

- e. Government telephones shall not be used for personal reasons.
- f. All tasks accomplished by the Contractor personnel shall be performed to preclude damage or defacement of Government-owned furnishings, fixtures, equipment and facilities. The Contractor shall report any damage observed or caused by the Contractor personnel to the COR.
- g. The Government reserves the right to accept or reject Contractor's staff for the rendering of services. Complaints concerning Contract Personnel performance or conduct shall be dealt with by the Contractor, and/or the COR with the final decision made by the Contracting Officer.

21. **CERTIFICATION REQUIREMENTS/PERSONNEL QUALIFICATIONS/EXPERIENCE CRITERIA.** Contractor and Contractor personnel shall have the following qualifications, but not limited to:

- a. The Contractor shall be licensed in the State of California.
- b. The Contractor shall have a minimum of five years' experience in the inspection, maintenance, testing, troubleshooting and repair of listed electrical, electronic monitoring and controls and Central power plant and equipment similar to the equipment at this medical center.
- c. The Contractor shall have fully qualified Field Service Engineer(s) to repair the equipment involved as specified in this contract. "Fully Qualified" is based upon training and on experience in the field. For field experience, the Field Service Engineer shall have a minimum of five years' experience with high-rise buildings, medical facilities, and power plants for the equipment to be maintained under this Statement of Work (Listed in Exhibit A).
- d. A Company President/Owner or Qualified individual within the company must possess an Electrician C10 License. Field Service Engineers must be at the Journeymen Level for Electrician and licensed in the State of California.
- e. Field Service Engineers shall be authorized by the Contractor to perform the services. Fully Qualified Field Service Engineers shall perform all of the work. The Contractor shall provide to the Contracting Officer, written assurance of the competency of their personnel and a list of credentials of approved personnel, (to include the training undergone and training certificates) for the approved Field Service Engineer Personnel that will be performing services under this contract. The Contracting Officer specifically reserves the right to reject any of the Contractor's personnel and refuse them permission to work on the VASDHS equipment. This determination shall be by the Contracting Officer with guidance from the COR.

22. **BADGES.** All Contractor personnel are required to wear identification (I.D.) badges during the entire time they are at the VASDHS. ID badges must have an identification picture, name of the

individual and the represented company depicted on it. Contact the COTR in order to obtain badges.

23. **PARKING.** It is the responsibility of the contract personnel to park in the appropriate designated parking areas. Parking information is available from the VASDHS Security Service. The VASDHS shall not invalidate or make reimbursement for parking violations of the Contractor's personnel under any circumstances.

PARTIAL CENTRAL PLANT EQUIPMENT LISTING FOR MAINTENANCE AND REPAIR

A. General Overview:

Work covered by this contract includes monitoring and controls systems within the Veterans Affairs San Diego Health Care System (VASDHS) Central Plant, Building 2. This is comprised of a number of various systems which are used to control motors, monitor and adjust temperatures, open, close and modulate valves and fan speed, pressures and flows for HVAC and hydraulic and medical and utility grade medical gas systems and generation and distributing pumping systems throughout the facility. This also includes building automated data systems that run throughout the facility to supply space heating, cooling and domestic hot and cold water. Work requested may involve troubleshooting, installation, and designing power and controls systems for the partial central plant equipment.

B. Partial Central Plant Equipment listing for Maintenance and repair:

1. Cogeneration: Solar Mercury Cogeneration plant which includes a 4.6 mW, 12,000 volt generator and 13,000 pph heat recovery system
2. Emergency Generators: Four 625 kW Caterpillar 3508 Emergency power engine and generator
3. Johnson Controls (JC) 85/40 and Metasys Systems
4. Dynelectric/Rockwell Balance of Plant System to monitor and control interface to the boilers in building 2, the Solar Turbines M 50 Cogeneration Plant and Heat recovery boiler.
5. Trane Tracer Summit system located in Building 2 to monitor and control the Centrifugal and Absorption chillers
6. Siemens Apogee system located in Building 2 to monitor and control domestic water pumps located in Building 2, the reheat and preheat systems located in Building 1 and the domestic hot water system located in Building 1
7. Local Networked connections to all Graphic Control Computerized and PLC systems and peripheral devices.
8. Invensys Eurotherm 6180A PLC monitoring and control system for the Carbon Monoxide
9. Unburned Gas detection monitoring and alarm system which includes Sensidine Sens Alarm Plus CO2 Alarm monitor/transmitter.
10. Programmable Logic Controller located in Building 2, the central plant to monitor and control:
 - a. Culligan water softeners,

- b. Bolemo Motorized Valves
 - c. Bray Motorized Valves
11. 100 HP Barrett Chilled Water Pumps
 12. 50 HP City water Booster Pumps
 13. 100 HP Aurora Chiller Condenser pumps
 14. Led and Florescent Lights and ballasts (277 Volt)
 15. US filter reverse osmosis units VC06
 16. Emergency generator diesel pump controls
 17. Emergency diesel start and transfer switch controls;
 18. Bosh 25 HP medical vacuum pumps,
 19. PS5ZR-B24 Slainity monitor and controls for water softeners.
 20. Aquavar Variable frequency drives for boiler feed water pumps
 21. 15 HP Baldor Boiler Feed water Pumps
 22. Kobelco Utililty air Compressors KNOW-B/L 50 HP
 23. Hind Cepower AT 10-1 Emergency Generator Battery Charger
 24. Telemechanique Diesel Prelube sequential Controller for Caterpillar 3508 diesel engines (4)
 25. Backup power for controls on the Trane ABTF500 Chillers
 26. Backup UPS power for Cleaver Brooks CB 1200 700 200 28,576,200 But/Hr boilers (2)
 27. Boilers monitoring and controls: Cleaver Brooks 1200 700 200 28,576,200 BTU/HR (2)
 28. Grundfos Chemical Feed Pumps for boiler chemicals
 29. FM0208 Turbines Incorporated Flow Monitors
 30. Flexim 22-SDG-003-BW-1 Chilled water and Boiler makeup ultrasonic flow meters
 31. BERO Air Dryer Dew point AC
 32. Perimeter motion and door latch security detection and alarms and alarm panels

33. Dessicant Dryer Controller DDC-15
34. Garner Denver Medical Air Compressors (4) BS31SWTR45W
35. Autodrain Mdl G31 (4)
36. Shiftmanager BPAC01120FF Sequencer
37. Allen Bradley DI water Pump Controller
38. ZABB ACH550-BCR-097A1 +B055 Cooling tower VFD
39. ABB ACH550-UH-RR5A4+BOS5
40. Tosvert VT 130320410K 100 HP VFD for the Chilled water pumps (3)
41. Mitsubishi F700 VFD controller for AC 36
42. Modicon MKRO A2G 100 CPU 311 01 Vacuum pump controller
43. Diversified Electronics ARA-120-ARE Sequencer for Medical Vacuum Pumps
44. APC.Symetra LX UPS
45. Precision Digital Temperature Gauges
46. Medical Air Dewpoint sensor GFG Instrumentation
47. Medical Air Carbon Monoxide Sensor ABL 4021
48. Turbines Inc Flow Monitor MDL 208
49. Veeder Root Softener Level Meter
50. Dewpoint Monitor GFG Instruments 4100 DP
51. AutoCal ABL-4021 Medical Air Carbon Monoxide Sensor and alarm.
52. High and low pressure Medical Gas Earthquake safety automatic and manual shutoff valves Proximity 43VM8-51 1735902GO
53. Deionized water purity monitor Myron LAQUASMTCH
54. Amico Nitrous Oxide Gas manifold monitor alarm and controller
55. Chillers: Trane 1200 ton chillers CVHF130 Alternate controller power feed and auto switching controls.

56. Boiler temperature, flow and pressure monitoring panel
57. Medical Gas alarm panel, NOx, Medical Air, Utility Air, Bulk Oxygen
58. City water and water leak detection panel
59. Perimeter Security Panel, controls and remote camera system.
60. Emergency Potable water tank level monitoring panel
61. Remote Oxygen Panel level and alarm panel
62. Emergency generator and Emergency Power automatic transfer switch status and alarm panel.
63. Emergency stop shutdown controls for the boilers, earthquake valves, Emergency diesel Generators and centrifugal chillers
64. Reverse Osmosis, Deionized water, Vacuum pump, utility air, computer room temperature alarm panel
65. Various transmitters for Flow, pressure, energy consumption and production, positioners, status, alarms, digital and analog gauges, bypass and isolation systems.

Please note, this listing is not all-inclusive, and other equipment may fall under the scope of this contract that is not identified herein.

**PARTIAL CENTRAL PLANT PREVENTATIVE MAINTENANCE
INSPECTION EQUIPMENT LISTING**

- C. Partial Listing of Preventative Maintenance Central Plant Utility Service Equipment
1. Electrical Panel boards throughout the central plant 120/208 Volt, 480 volt (Visual and infra red scan)
 2. 120/208/480 Breakers including single inline breakers and fuses
 3. Motor temperatures (Visual and infrared scan)
 4. Pumps (alignment)
 5. UPS systems inspect proper function and test batteries
 6. Lighting
 7. Transformers (infra red scan, inspect for signs of arching)
 8. Safety devices - test, verify full function or monitoring and alarm
 9. Carbon Monoxide and Unburned gas monitors – test for full range of detection, perform alarm testing
 10. Fire system interfaces
 11. Emergency Audio alarm systems
 12. Entrance and egress monitoring and control

Please note, this listing is not all-inclusive, and other equipment may fall under the scope of this contract that is not identified herein.